1952 (47)

ON BRAIN FIELD FORCES IN VISUAL PATTERN PERCEPTION[1]

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Cats were trained by the method of paired simultaneous presentation to discriminate an equilateral triangle from any of a series of imperfect triangular figures. The dissimilarity of the test figures was gradually reduced until the animals' performance approached the limit of their discriminatory capacities under the experimental conditions. Training apparatus designed for transmitted illumination of the figures made it possible to teach fine discriminations relatively quickly. After a period of overtraining, multiple knife cuts were made in criss-cross patterns throughout the visual and neighboring cortex of both hemispheres. In other cases the same cortical regions were filled with numerous pins of tantalum wire. Both types of operation, designed to disrupt and distort the direct currents and other mass forces hypothecated in field theory, failed to cause any marked disturbance of visual performance. Comparable results were obtained from unilateral operations following preliminary removal by suction of both superior colliculi plus one visual cortex. The experiments are being extended to include partitioning of the visual cortex with a dielectric insulator and the introduction of abnormal direct currents through implanted electrodes.

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[1]Supported by grants from the National Institutes of Health, Public Health Service, and the Abbott Memorial Fund of the University of Chicago.

Reprinted from Anatomical Record, 1952, vol. 112, p. 433.